

AUTOMOBILE NEWS FOR THE DEALER AND THE CAR OWNER

EDITED BY BURTON S. BROWN.

GIVE YOUR GASOLINE TANK INSPECTION NOW AND THEN

The Sixtieth of a Series of Articles by an Expert for the Automobile Owner.

By WALTER SHIELDS.

The fuel tank is another part of the car which the owner rarely thinks about, except perhaps when it is empty; otherwise he does not even consider it a part of the car. But a cheap and poorly made fuel tank can give endless trouble to the owner in a short time because of leaks caused by ripped seams due either to poor workmanship, poor installation or cheap materials. There is not the need for any extensive examination of the fuel tank at any time in the life of the car, but an occasional inspection is in order. This should cover a tightening of the fuel line connections and supporting parts.

Formerly fuel tanks for automobiles were made from heavy copper, riveted and soldered. This was a very expensive process because of the large amount of work involved. Copper was the material used because it always presents a clean surface and the solder flows well on it and adheres well. At the present time the commercial material for building type gasoline tanks is steel plate, which is covered with an alloy composed of approximately 75 per cent. lead and 25 per cent. tin. The stock varies from No. 15 gauge to No. 22 gauge, the latter being used only where the tank is exposed to injury. Where it is not exposed it is better and quite usual practice to make the body of No. 15 gauge and the head of No. 19 gauge.

There are numerous constructions of gas tanks. The construction shown in Fig. 1 is unsatisfactory because the body of the tank is not properly supported. The body is flanged out at the end—this being done in a flanging machine—and the convex head is then spun over and the joint is then sweated as shown.

A better construction is that shown in Fig. 2. Here the head is pressed in the form shown on the right and is forced onto the end of the tank body. With such a tank there is much less likelihood of distortion from the cylindrical shape. The flange on the head is then spun over and the joint is then sweated as shown.

Another construction, and which is considered the best of all, is that shown in Fig. 3. Here a small corrugation is rolled in the body sheet near the head to stiffen the body and support the head, the convex head with its outwardly turned flange is then pressed into the corrugation and the joint is then sweated.

A better construction is that shown in Fig. 4. Here the head is pressed in the form shown on the right and is forced onto the end of the tank body. With such a tank there is much less likelihood of distortion from the cylindrical shape. The flange on the head is then spun over and the joint is then sweated as shown.

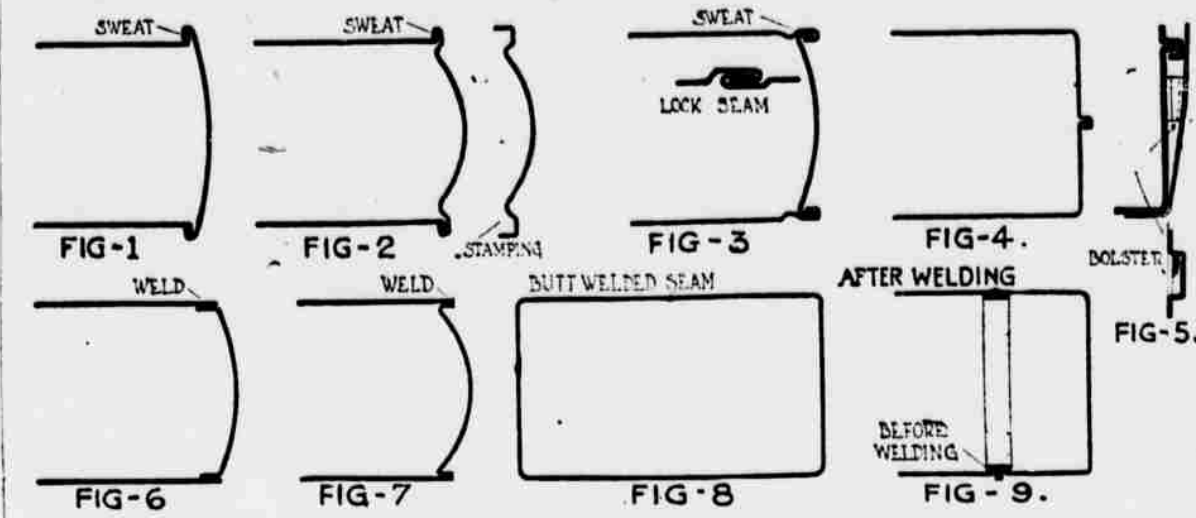
Another construction, and which is considered the best of all, is that shown in Fig. 5. Here a small corrugation is rolled in the body sheet near the head to stiffen the body and support the head, the convex head with its outwardly turned flange is then pressed into the corrugation and the joint is then sweated.

Recently drawn tanks have come into use. These might be described as consisting of two deep pans joined together at their flanges. One advantage of the drawing process for making tanks is that it permits of irregular shapes as required in cowl tanks of great strength. The drawn tank costs somewhat more than the ordinary built up tank, but when a cowl tank is used no vacuum feed system is required and the saving thus effected may be made to more than offset the slight additional cost of this type of tank.

For truck and tractor purposes welded tanks of heavy stock, usually No. 15 gauge, are used. There are also several forms of construction in this line of tanks. The ends may be formed as shown in Fig. 6 or Fig. 7. There is probably very little difference between the two constructions as regards their merits, and it is largely a matter of taste—one engineer prefers one type and another the other. In both cases the tank body is supported on a wide circular ring. There are also two methods of making the longitudinal seams of these tanks. They may be either butt welded, as shown in Fig. 8, or lap welded, as in Fig. 9.

Fig. 9 shows a distinctive construction. In this a T section piece of rolled material is provided to act as support. The web of the support extends slightly above the plate at first, but after being welded it has practically disappeared. Designers of automobiles should realize the necessity of properly supporting the tank. Owing to the great weight of a full tank the stresses imposed on the supports at high car speeds are heavy, and the latter should be made of adequate strength to withstand the load and protect the joints of the tank. A rear hung tank must not be supported too rigidly, as the frame weaves. Probably the best method is to use straps of 18 or 20 gauge steel, about 1½ inches wide, lined with brake lining or special antiskid material. In the case of drawn tanks it is necessary to use bolster plates, as shown in Fig. 5, to prevent the supporting straps from bending over the joints and being broken.

As an illustration of the troubles sometimes experienced with tanks one automobile company received continuous complaints about the fuel tanks, but the trouble seemed to be limited to the runabout and coupe models. An investigation showed that the spring clip hit the seam of the tank, which was due to lighter springs being used on these models than on the touring model, which permitted unusual deflection and side sways. Solder cannot be depended upon to take strains, but it will serve as a seal. The same applies to spot welding. Probably 25 per cent. of all spot welds do not insure a perfect union of the metals, as to obtain this requires that the steel be free from certain impurities, that the surface be clean and that the pressure be right. Where strains must be taken up rivets should always be used. Where the gasoline feed tube enters at the top it is well to secure it at the bottom to prevent vibration. It has been found preferable to put the filler spouts on the body rather than on one of the heads. If the spout is placed on top of the body it is impossible to get an air trap and the tank can be filled full without difficulty.



Types of Tanks Described in Article.

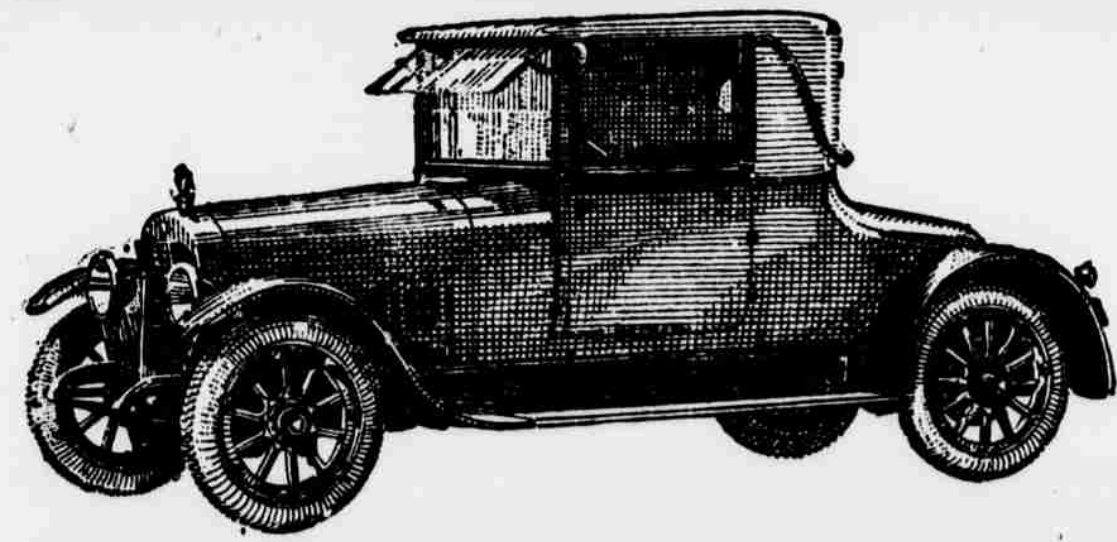
GOING AFTER BIG BUSINESS.

The daily output of gasoline now is 6,442,000 gallons or 1,000,000 in excess of consumption. There were 1,719,000 automobiles sold in this country last year and the demand has shown a steady increase year after year. There are 5,000,000 automobiles in use in this country, as compared with 290,000 in England.

"Considering these figures," says E. A. Scheu, general manager of the King Car Corporation, "I see nothing to worry over in present conditions. The temporary reduction in output is not a serious matter. The very bigness of this country and its tremendous resources will keep business going."

here the civilization we enjoy. Where their efforts have left visible memorials the State has endeavored to preserve them for the inspiration they afford. But this work is not only sentimental; it is also practical, because these attractions promote the physical welfare of our people and develop patriotism. In the case of the State of New York, the preservation of the State's historic landmarks is a matter of great importance. The State's resources are being developed in a way that will keep business going.

though eighteen years ago occurred the largest acquisition to the State forest preserve—\$5,000,000 being expended for the Palisades Interstate Park. This preserve consists of 22,000 acres on the west side of the Hudson, in the States of New York and New Jersey, to which Harriman Park, costing \$1,000,000, was added in 1910. In 1900 the Governor George Clinton House, located at Poughkeepsie, was made a part of the State's property at a cost of \$10,000. In 1908 the State acquired on Lake Ontario, was put under the State's custody, and the next year witnessed the acquisition of Fort Brewster, one of the frontier posts situated at the foot of Oneida Lake. The Sir William Johnson Mansion and Block House, located at Johnstown, was acquired in 1904 for



A New Type Super-Six

The Hudson Runabout Landau

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HISTORIC POINTS IN NEW YORK STATE

Motorists Should Take Advantage of Opportunity Offered by State Officials.

Nowhere in the world exists a greater variety of scenic and historic landmarks than here in New York State, and nowhere have the people been more generous in their contributions for acquiring and preserving these reservations—in many respects the most unique on the earth. During the last quarter of a century particularly this Commonwealth has become owner and custodian of many battlefields and parks of historic and scenic value, some of which are under the care of State Comptroller Travis's office.

The Empire State abounds with inspiring natural beauties, although until recently we have been singularly indifferent to them and too often have turned our attention elsewhere. To save these attractions and to set them aside as free preserves have been the aims of the State. The interest of our citizens, however, is not alone confined to the State's scenic advantages. They are also interested in the sacrifices of generations of soldiers who helped develop

burg, the first of the historic sites to be acquired, was purchased for about \$5,000. The Newtown Battlefield Reservation at Elmira, commemorating Gen. Sullivan's campaign against the Indians, was the second preservation to be dedicated and five years ago the place was made a State reservation at a cost of \$2,000. In 1885, Niagara Falls State Reservation, costing \$1,874,000, was created, and two years later the magnificent Adirondack Forest Preserve of 1,700,000 acres and the Catskill Forest Preserve of 113,000 acres, was begun. In 1887 the Senate House at Kingston, where the first State Legislature met, was acquired for \$15,000, and five years later, Pile Island State Park on Long Island was purchased for \$100,000 for quarantine services, and changed ten years ago into a State Park. The scene of the most important battle of the Revolutionary War was marked in 1885 by the Saratoga Battle Monument, and the same year witnessed the acquisition of the John Brown Farm, the home of the famous anti-slavery agitator—in reality a part of the Adirondack Preserve. The Grant cottage at Mount N. Greer, near Saratoga Springs, where President Grant spent his last days, was first maintained by the State in 1896, and in 1905, when the State acquired the Hudson River and the scene of the battle of the Clouds, the State purchased for \$50,000. In 1907, the Stony Point Battlefield, located in the Hudson River, was acquired. The last two reservations acquired were in 1915 and 1916, when the daughter of former Gov. Myron H. Clark transferred to the State seventy-five acres of land called the Clark Stone Reservation, located near Syracuse. In 1916, Battle Island Park, consisting of about 200 acres of land on the Oswego River, was acquired.

The Indian reservations, while not originally created for historic reasons, certainly possess similar interest. At present there are six of these officially recognized. They aggregate about 20,000 acres on which the Allegany, Cataraugus, Tonawanda, Tuscarora, Onondaga and St. Regis tribes dwell. The surviving tribes having no separate reservations are the Oneida, Cayuga, Coastal, Algonquin, Shinnecock, Poconattuck and Montauk.

GASOLINE SUPPLY NOW INCREASING

Problem Now Only Transportation and Amount of Oil Well Supplies.

WASHINGTON, March 30.—There is no shortage of petroleum for our immediate needs, according to Mark L. Requa, director of the oil division of the United States Fuel Administration. The lack is one entirely of transportation. Gasoline must be produced as a by-product in the manufacture of fuel oil used in the navy, in merchant ships and in industrial plants, and the gasoline must be disposed of. Crude oil containing the lighter volatile oils, such as gasoline, is dangerous for fuel purposes until the gasoline is removed. Obviously unless this gasoline is sold and consumed the cost of fuel oil will increase. There is therefore no intention on the part of the Fuel Administration to shut off or limit the supply of gasoline for use in motor vehicles. "There has been considerable discussion of the matter of cutting off the supply of gasoline to passenger vehicles following the precedent set in England," says Mr. Requa, "but the conditions are entirely dissimilar for reasons that England produces no oil and has to rely entirely upon exports overseas. The United States, on the contrary, not only produces the oil for its own consumption, but large surplus quantities for export. "It has been demonstrated recently that it is impossible to take oil for any specific purpose without exerting a detrimental influence on some other branch of the industry. The problem of what is least essential in an extremely difficult one to determine and I am somewhat of the opinion that the non-



essential industry does not exist. "It is quite obvious that the oil facilities of the United States must be used in such a way as to produce the maximum benefit viewed from a national standpoint to meet the existing crisis."

"The priority list was established for the reason that it is impossible, because of transportation shortage, to supply all consumers. When the supply is sufficient the priority list automatically ceases to operate. When a shortage does exist, Class 12 receives no oil until all lower numbered classes are supplied. "Total stocks in the United States approximate 160,000,000 barrels as of January 1. Last year's production approximated 220,000,000, and there was a draft on stock of about 20,000,000, somewhat of the opinion that the non-

MUST KEEP THE HIGHWAYS OPEN.

Industry of new army motor trucks overland from Buffalo to Boston has greatly hampered during the past year in deep snow on the main highway through the Mohawk and Hudson river valleys in New York State. Two bills providing for snow removal were introduced during the winter session of the New York Legislature. If the program of the month is to have a support of New York State authorities in keeping the main highways open year around will have to be granted at the session of the legislature because the highway does not open until January 1, and a bill could not be passed then in this permit the highway authorities to cope with the snow of 1918-19.

BEST IN THE LONG RUN

Tested Warriors of the Road

THE soldier must be tried in the fire of battle to be a tested soldier; the tire must be tried in the fire of the road test to be a tested tire. That is the Goodrich idea of a tire, and Goodrich will sell none but tested tires.

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